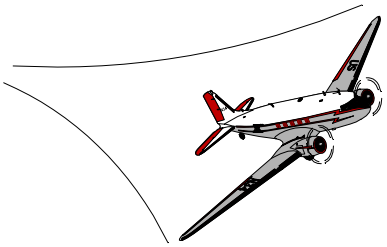
SPECIAL AIRWORTHINESS INFORMATION BULLETIN



Aircraft Certification Service
Washington, DC

U.S. Department of Transportation

Federal Aviation Administration

No. NE-04-43
January 14, 2004

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This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin (SAIB) recommends that you, owners and operators of **Turbomeca Engine powered Rotorcraft,** revisit Turbomeca procedures for counting engine cycles for Life Limited Parts. We also recommend that flight crews be informed and trained in the importance of accurate recording of engine cycles, which include both full and partial cycles. This SAIB also provides guidance to owners and operators whose pilots have difficulty in accurately assessing the total cycles during a flight.

Background

It is the responsibility of owners and/or operators to comply with the Airworthiness Limitations Section of each airframe/engine manufacturers' Instructions for Continued Airworthiness, which lists the cycle times for Life Limited Parts (LLPs). The Turbomeca Arriel I Maintenance Manual Chapter 5-10-03 pages 6, 7, and 8 provides two approved methods for counting engine cycles, the "Lump Sum Method" and the "Recommended Procedure". Both methods are based on monitoring the gas generator speed (N1) during the flight. To avoid late retirement of Life Limited Parts the FAA requires accurate tracking of engine total cycles

The FAA is concerned that some operators may be unable to maintain an accurate counting of the total number of engine cycles per flight.

It appears that some pilots may not be aware of the maintenance requirements of recording the partial cycles and the need to include all partial cycles in the total cycle count. Currently, the Rotorcraft Flight Manual (RFM) does not require the pilot to record, at the end of each flight, the engine cycles. However, it is incumbent upon the operator to meet these requirements to avoid exceeding the FAA approved life limitation of the engine critical parts.

Some pilots may find it difficult, due to the flight mission workload to monitor the gas generator for proper recording of the N1 excursions necessary to calculate the total engine cycles for that particular flight. This was the result of the FAA Engine Certification Office inquiry with several helicopter operators, FAA Rotorcraft Directorate, and FAA flight test pilots.

We collected general feedback, which suggests that the pilot is able to monitor engine-critical parameters to safely operate the helicopter; however, in a high work load environment, he may shed tasks not directly associated with its primary flight mission.

Recommendation

We recommend that owners and operators:

- Stress the importance of engine cycle counting with flight crew.
- Review the cycle counting approved procedures available in the manufacturer's aircraft and engine maintenance manuals.
- Emphasize the importance of engine cycle counting during continuous training for the flight crew and maintenance personnel.
- Contact the engine manufacturer to review current approved cycle counting methods for accommodating highly demanding flight mission profiles.
- Consider the installation of approved automatic cycle counting equipment

For Further Information Contact

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